

## A New Record of *Caloptilia schisandrae* Kumata (Lepidoptera, Gracillariidae) from Korea

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**Abstract** *Caloptilia schisandrae* Kumata is reported for the first time from Korea, with redescription of adult and illustration of the genitalia of both sexes. Larvae of the species caused damages on young plants of *Schisandra chinensis* (Turcz.).

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**Key words** Gracillariidae, *Caloptilia schisandrae*, new record, Korea

### INTRODUCTION

The genus *Caloptilia* Hübner, 1825 is a large group of the family Gracillariidae, consisting of about 1,600 species in the World (Davis, 1987). In Korea, 11 species of the genus are known mainly by Park (1983) and Park and Han (1986). Larvae of the genus *Caloptilia* usually make a swollen irregular blotch on leaves of host plants, and the first-instar larva enter leaves or other tissues, and make a linear mine (Common, 1990).

From the survey of insect pests on a medicinal crop, *Schisandra chinensis* (Turcz.) (Magnoliaceae) during last few years, we found mining damages in leaves by lepidopteran larvae. They were reared into adults in the laboratory using the leaves of the host plant, and it was identified as *Caloptilia schisandrae* Kumata, 1966. *S. chinensis* is an only known host in Japan (Kumata, 1966; 1982). Description of the color was based on the Metheun Handbook of Colour (Kornerup & Wanscher, 1978).

### *Caloptilia schiandrae* Kumata, 1966 오미자가는나방 (신칭)

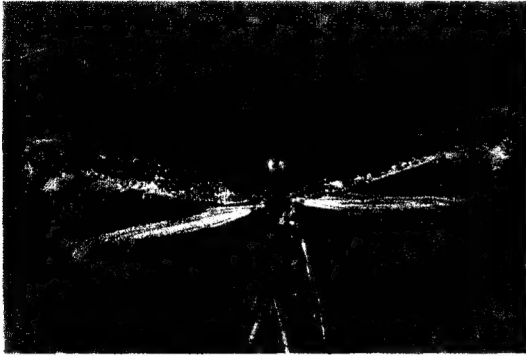
(Figs 1-5)

*Caloptilia schiandrae* Kumata, 1966. Ins. Matsum. 29: 18, pls 3(21 & 22), 11(42) and 19(62). [TL: Hokkaido, Japan]

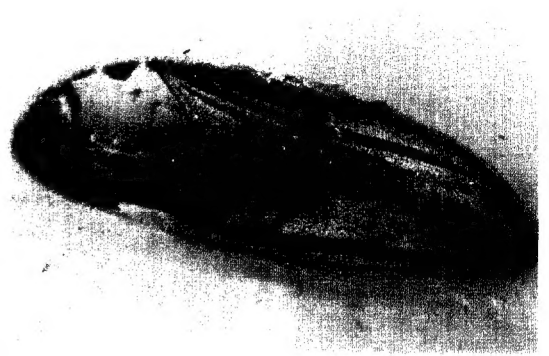
**Description.** Adult (Fig. 1). Wingspan 14-15 mm. Antenna longer than length of forewing. Forewing with ground color brownish yellow or brown; with the black oblique streak at base 1/5 of costa; a large black blotch at base 1/4 of costa, a small blotch at middle of costa, and a black dot at middle of cell; a black fragment from basal 3/4 of costa to apex; horizontal black line at apex; black fragment along hind

margin. Cilia dark gray at apex of forewing, pale yellow with dark gray along hind margin. Hindwing gray. Cilia golden gray.

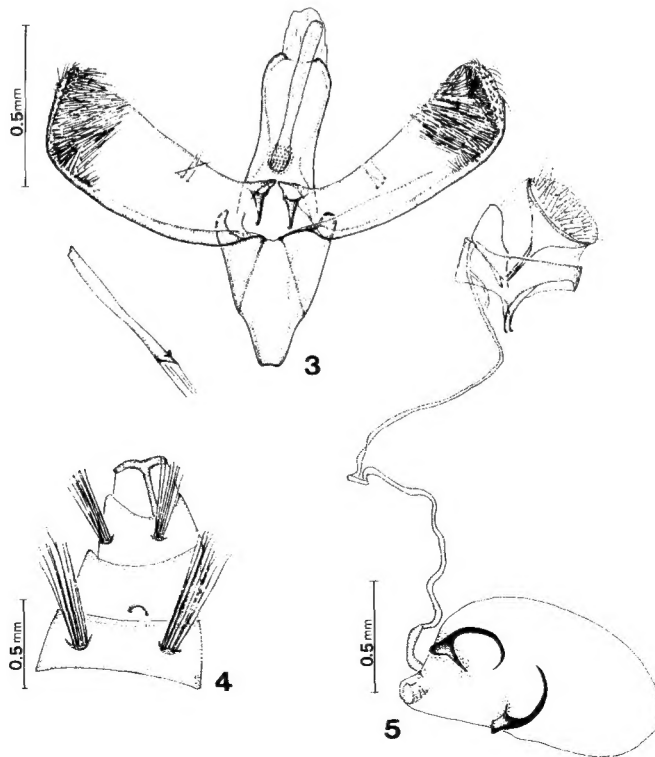
Male genitalia (Fig. 3-4). Uncus membranous and rounded caudally. Subscaphium club-shaped, finely spinous at base. Valva somewhat elongated quadrate, gradually broaden distally, about 1.5 times as long



**Fig. 1.** Adult of *Caloptilia schiandrae* Kumata.



**Fig. 2.** Cocoon and pupa of *Caloptilia schiandrae* Kumata.



**Figs 3-5.** Male and female genitalia of *Caloptilia schiandrae* Kumata: 3, male genitalia; 4, corematis of 6th and 8th male's abdomen; 5, female genitalia.

as vinculum, densely setose on distal region. Vinculum triangular, apex rounded. Aedeagus very slender, slightly longer than vinculum, without cornutus. Posterior corematis consisting of hairs about half of anterior one (Fig. 4).

Female genitalia (Fig. 5). Lamella postvaginalis very large; lamella antevaginalis absent. Ductus bursae very narrow, long, more than 2 times of corpus bursae in length. Corpus bursae large, ovate; with a pair of signa elongated hook-like, slightly asymmetrical in position.

*Material examined.* 7 ♂, 6 ♀, Anseong, Muju, Jeollabuk-do, Korea, 30 VIII 2000 (G.S. Lee), in the leaves of *S. chinensis*, emerged on 19–22 IX 2000.

*Host plant.* *Scisandra chinensis* (Turcz.) (Magnoliaceae).

*Distribution.* Japan (Hokkaido, Honshu), Korea (South, new record).

*Biology.* Larva feeds on sap and tissue inside leaves of host plant, and the color of the leaf become silvery. A larva can be found in a leaf. Fully grown larva escapes from the mine to pupate, then moves to the margin of the leaf, and finally envelopes itself in silk on the leaf (Fig. 2). The cocoon is boat-shaped, ellipse, and brownish yellow in color, and the upper surface is smooth. According to the host plant recorded, this species appear to be monophagous to *S. chinensis* (Kumata, 1982). In Korea, *S. chinensis* is widely cultivated for the use of medicine or tea. The damage on *C. schisandrae* in Korea is not serious, representing about 5% of total young plants in the field.

*Remarks.* According to the original description, the subscaphium is fan-shaped at basal extreme. However, those of Korean specimens are club-shaped and not much widened basally. The difference seems to be an individual variation.

## ACKNOWLEDGMENTS

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